



Oregon

Theodore R. Kulongoski, Governor

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August 7, 2009

Also sent via e-mail

Chip Humphrey and Eric Blischke
U.S. Environmental Protection Agency, Region 10
805 SW Broadway, Suite 500
Portland, OR 97205

Subject: EPA's 8/4/09 Draft Final Remedial Action Objectives

Dear Chip and Eric,

DEQ reviewed EPA's 8/4/09 draft final remedial action objectives (RAOs) for the Portland Harbor project. While we continue to generally agree with most all of the RAOs and support EPA's efforts to finalize the RAOs, we still have several strong concerns, and are considering invoking dispute resolution per the Portland Harbor Memorandum of Understanding if DEQ concerns are not satisfactorily addressed. Furthermore, DEQ reserves the right to factor these issues into the state's determination whether to concur with the EPA selected remedy for the site. Our comments on the draft final RAOs are presented below.

- 1) RAOs 1, 2, 4, and 5- DEQ's 7/23/09 letter- In DEQ's 7/23/09 letter to EPA, we expressed our concerns regarding the use of the term "groundwater" in EPA's 7/2/09 RAOs. Basically we said that the terms "pore water" or "transition zone water" (which had been used in previous versions of the RAOs) were more appropriate than "groundwater" because they more clearly define the precise physical medium where exposure is expected to occur. The terms "transition zone water" and particularly "pore water" describe the liquid portion of sediment more accurately and less ambiguously than "groundwater". Furthermore, the use of the term "groundwater"..., particularly without the benefit of text specifically defining "groundwater"..., could be interpreted to mean groundwater in the uplands, which we understand is not addressed by the RAOs, and which, in DEQ's view, would be beyond the scope of the NPL listing and inconsistent with the interagency Memorandum of Understanding (MOU) and DEQ management of upland facilities under state law.

Suggested resolution- As suggested in our 7/23 letter, we see two options to resolve our concern. 1st, would be to go back to the original language and use either the term "pore water" or "transition zone water" rather than "groundwater". 2nd, include a clear, precise, definition of "groundwater". A 3rd option may also be available. That 3rd option would be to use the terms "pore water" or "transition zone water" in RAO 1,

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and defer consideration of groundwater to Management Goal 1.

- 2) RAO 1- "groundwater"- We question why the term "groundwater" is needed at all since the footnoted definition of "sediments" in EPA's 8/4 RAOs includes "interstitial water and transition zone water". Furthermore, in EPA's *"Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA"* (October 1998), the example RAOs in Table 4-1 are clearly separated by media (groundwater, soil, surface water, and sediment). It simply doesn't seem appropriate to force consideration of groundwater into an RAO focusing on sediment.

Suggested resolution- See "Suggested resolution" to Comment 1.

- 3) RAO 1- "direct human health sediment exposure"- The 1st sentence of the supporting text of RAO 1 states this RAO applies to "human health risks from ingesting groundwater". We understand the exposure model for the in-water RI/FS contemplates surface water to be the divergence point of a water supply scenario..., not groundwater, pore water or transition zone water.

Suggested resolution- RAO 1 should be re-written to exclude human ingestion of water from "direct human health sediment exposure".

- 4) RAO 1- "incidental ingestion"- RAO 1 includes incidental ingestion of both sediment and groundwater. Yet the exposure model for the Portland Harbor remedial investigation/feasibility study (RI/FS) contemplates only human incidental ingestion of sediment. EPA's 8/4 RAOs define sediment as the solids and liquids (i.e., groundwater, or pore water, or transition zone water) that collect on the river bottom. The supporting text of RAO 1 states that this RAO applies to human health risks from ingesting groundwater that exceeds applicable or relevant and appropriate requirements (ARARs). We assume the ARARs EPA contemplates in this instance are drinking water maximum contaminant levels (MCLs) and perhaps tap water preliminary remediation goals (PRGs). Exposure assumptions supporting ARARs and tap water PRGs are much different and much more conservative than an "incidental ingestion" scenario.

Suggested resolution- See "Suggested resolution" to Comment 3.

- 5) RAO 1- "through sediment remedies"- RAOs 2 through 6 state that the goals are to reduce risk through sediment remedies. This statement is currently not, but should be included in RAO 1.

Suggested resolution- Include this statement in RAO 1.

- 6) RAO 3- "inhalation of surface water"- Of course we understand that the referenced text refers to inhalation of volatiles and perhaps semi-volatiles in surface water. The conceptual site model (CSM) in the LWG's 2007 "*Comprehensive Round 2 Report*" (Appendix F, Figure 3.1) lists inhalation from surface water as a "potentially complete pathway but not evaluated in the Round 2 HHRA because exposure is expected to be insignificant". DEQ concurs with this determination.

Suggested resolution- Since this exposure pathway will not be evaluated in the human health risk assessment (HHRA), it should not be included in RAO 3.

- 7) Management Goal 1- sediment cleanup that supports source control- The language in the 2nd sentence of the supporting text should be reversed. The goal is to have upland and upstream source controls support a sediment cleanup.

Suggested resolution- Revise the text as described above.

- 8) Management Goal 1- "control migration of contamination in all pathways to the river"- In the supporting text for Management Goal 1, EPA states the goal of source control measures "is to reduce risk, control migration of contamination in all pathways to the river, and prevent the unacceptable recontamination of cleaned up sediments". We're uncertain what EPA precisely means by saying controlling migration of contamination. DEQ's fully supports the overall source control goal of reducing risk and preventing recontamination, but we don't necessarily agree that it's essential to "control migration of contamination in all pathways to the river"... particularly those pathways that don't contribute to unacceptable risk or threat to re-contaminate in-water cleanups.

Suggested resolution- Remove the phrase "control migration of contamination in all pathways to the river" from Management Goal 1.

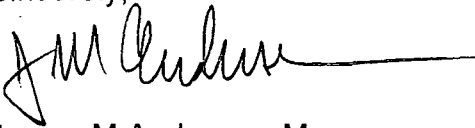
- 9) Footnote iii- upland source control measures protecting groundwater- In the last sentence of Footnote iii, EPA states that "upland source control measures will be the primary actions for protecting beneficial uses of groundwater, including potential water supply use, and that such controls will be conducted to achieve RAOs established for the in river portion for the Portland Harbor Site". Again, the use of the term "groundwater" causes uncertainty. In using the term "groundwater", does EPA mean "pore water" or "transition zone water", or does EPA actually mean upland groundwater? If EPA means "pore water" or "transition zone water", then..., as previously stated..., the Portland Harbor CSM didn't contemplate that pore water or transition zone water would be the point of divergence for a potential drinking water supply. Therefore, drinking water wouldn't be a direct beneficial use of pore water or transition zone water.

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If, on the other hand, EPA uses the term "groundwater" to mean upland groundwater (as opposed to pore water or transition zone water), then what is EPA's definition of "beneficial uses of groundwater"?

Suggested resolution- See "Suggested resolution" to Comment 1.

Sincerely,

A handwritten signature in black ink, appearing to read "James M. Anderson", followed by a horizontal line extending to the right.

James M Anderson, Manager
Portland Harbor Section

cc: Kurt Burkholder, DOJ
Matt McClincy, DEQ NWR
Nina DeConcini, DEQ NWR
Kristine Koch, EPA
Deb Yamamoto, EPA